

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) Container for receiving an aqueous solution, which comprises  
at least one area which acts as an electrode when an electric voltage is applied and a subsequent discharge occurs,  
wherein said at least one electrode is made of a conductive synthetic material which is, or is at least based on a plastic material which is doped with at least one conductive substance,  
wherein an overall concentration of said dope in said plastic material is 20 – 80 % w/w, and  
wherein the container is for electroporation or electrofusion of cells, derivatives of cells, subcellular particles and/or vesicles and is, at least partially, formed by an outer limit which forms an inner chamber for receiving said solution.
2. (Previously Presented) Container according to claim 1, wherein said dope consists essentially of carbon fibers, graphite, soot and/or carbon nanotubes.
3. (Previously Presented) Container according to claim 1, wherein the overall concentration of said dope in said plastic material is 20 – 60 % w/w.

4. (Previously Presented) Container according to claim 1, wherein the overall concentration of said dope in said plastic material is 40 – 80 % w/w.
5. (Previously Presented) Container according to claim 1, wherein said plastic material is polycarbonate, polyetheretherketone, polypropylene, polyamide, polyphenylsulfide or a mixture of these polymers, or at least based on one or several of these polymers, and/or wherein said plastic material is an intrinsically conductive synthetic material.
6. (Previously Presented) Container according to claim 5, wherein said plastic material is an intrinsically conductive synthetic material and wherein said intrinsically conductive synthetic material is polyaniline, polyacetylene, poly-para-phenylene, poly-para-phenylsulfide, polypyrroles, polythiophene, polypropylene, or at least based on one or several of these polymers.
7. (Previously Presented) Container according to claim 1, wherein said outer limit is made of synthetic material.
8. (Previously Presented) Container according to claim 7, wherein said synthetic material is the same plastic material as the plastic material on which said at least one electrode is based.
9. (Previously Presented) Container according to claim 1, wherein said at least one electrode is integrated into said outer limit.
10. (Previously Presented) Container according to claim 1 comprising at least two electrodes being made of the same material.

11. (Previously Presented) Container according to claim 1 comprising at least two electrodes, wherein said at least two electrodes are made of different materials.
12. (Previously Presented) Container according to claim 1, wherein said at least one electrode is made of polyamide doped with 25 - 45 % w/w carbon fibers and 15 - 35 % w/w graphite.
13. (Previously Presented) Container according to claim 1, wherein said at least one electrode is made of polyamide doped with 30 - 50 % w/w carbon fibers and 25 - 45 % w/w graphite.
14. (Previously Presented) Container according to claim 1, wherein said at least one electrode is made of polycarbonate doped with 15 - 40 % w/w carbon fibers and 1 - 40 % w/w graphite.
15. (Previously Presented) Container according to claim 1, wherein said at least one electrode is made of polyetheretherketone doped with 30 - 50 % w/w carbon fibers.
16. (Previously Presented) Container according to claim 1, wherein said at least one electrode is made of polyamide, preferably polyamide 66, doped with 20 - 40 % w/w carbon fibers.
17. (Previously Presented) Container according to claim 1, wherein said at least one electrode is made of polypropylene doped with 20 % w/w carbon fibers.

18. (Previously Presented) Container according to claim 1, wherein said at least one electrode is made of polyphenylensulfide doped with 30 - 50 % w/w carbon fibers.
19. (Previously Presented) Container according to claim 1, wherein said outer limit comprises at least one opening for supplying said solution and at least one opening for draining off said solution.
20. (Previously Presented) Container arrangement comprising at least two, preferably 6, 12, 24, 48, 96 or more, containers according to claim 1 being joined to build one unit.
21. (Withdrawn) Method for producing containers or container arrangements according to claim 1 by two-component injection moulding comprising:
- (a)(i) at first injection-moulding the outer limit so as to leave one recessed window, and
  - (b)(i) subsequently injection-moulding the conductive synthetic material made of doped plastic into said at least one window, or alternatively,
  - (a)(ii) at first injection-moulding said at least one electrode from said doped plastic material, and
  - (b)(ii) subsequently injection-moulding said outer limit around said at least one electrode.
22. (Withdrawn) Method for treatment of cells, derivatives of cells, subcellular particles and/or vesicles by means of electric current comprising:
- a) transferring said cells, derivatives of cells, subcellular particles and/or vesicles into an inner chamber of at least one container according to claim 1

- comprising at least one electrode, and at least one further, and
- b) applying voltage to said electrodes and generating a current flow in said inner chamber of said container.
23. (Withdrawn) Method according to claim 22, wherein said electric current reaches a current density up to  $120 \text{ A/cm}^2$ , preferably  $80 \text{ A/cm}^2$ .
24. (Withdrawn) Method according to claim 22, wherein biologically active molecules are solved in said solution, and transfer of said biologically active molecules into living cells is achieved via a voltage pulse having a field strength of  $2$  to  $10 \text{ kV}\cdot\text{cm}^{-1}$  and a duration of  $10$  to  $200 \mu\text{s}$ .
25. (Withdrawn) Method according to claim 24, wherein said transfer of said biologically active molecules into said cells is achieved by a current flow following said voltage pulse without interruption, having a current density of  $2$  to  $14 \text{ A}\cdot\text{cm}^{-2}$ , preferably  $5 \text{ A}\cdot\text{cm}^{-2}$ , and a duration of  $1$  to  $100 \text{ ms}$ , preferably  $50 \text{ ms}$ .
26. (Previously Presented) Container according to claim 1, wherein said aqueous solution comprises cells, derivatives of cells, subcellular particles and/or vesicles.
27. (Previously Presented) Container according to claim 7, wherein said synthetic material is a transparent plastic material.
28. (Withdrawn) Method according to claim 22, wherein said cells, subcellular particles and/or vesicles are transferred into inner chambers of at least two containers.

29. (Withdrawn) Method according to claim 24, wherein said biologically active molecules are nucleic acids.
30. (Previously Presented) Container according to claim 3, wherein the overall concentration of said dope in said plastic material is 40 – 60 % w/w.
31. (Previously Presented) Container according to claim 3, wherein the overall concentration of said dope in said plastic material is 50 – 60 % w/w.
32. (Previously Presented) Container according to claim 4, wherein the overall concentration of said dope in said plastic material is 50– 80 % w/w.
33. (Previously Presented) Container according to claim 4, wherein the overall concentration of said dope in said plastic material is 60– 80 % w/w.
34. (Previously Presented) Container according to claim 4, wherein the overall concentration of said dope in said plastic material is 70– 80 % w/w.
35. (Previously Presented) Container according to claim 12, wherein said at least one electrode is made of polyamide 66 or polyamide 6.
36. (Previously Presented) Container according to claim 12, wherein said at least one electrode is doped with 30 - 40 % w/w-carbon fibers.
37. (Previously Presented) Container according to claim 12, wherein said at least one electrode is doped with 33 - 37 % w/w carbon fibers.

38. (Previously Presented) Container according to claim 12, wherein said at least one electrode is doped with 20 - 30 % w/w graphite.
39. (Previously Presented) Container according to claim 12, wherein said at least one electrode is doped with 23 - 27 % w/w graphite.
40. (Previously Presented) Container according to claim 13, wherein said at least one electrode is made of polyamide 66 or polyamide 6.
41. (Previously Presented) Container according to claim 13, wherein said at least one electrode is doped with 35 - 45 % w/w carbon fibers.
42. (Previously Presented) Container according to claim 13, wherein said at least one electrode is doped with 39 - 41 % w/w carbon fibers.
43. (Previously Presented) Container according to claim 13, wherein said at least one electrode is doped with 30 - 40 % w/w graphite.
44. (Previously Presented) Container according to claim 13, wherein said at least one electrode is doped with 34 - 36 % w/w graphite.
45. (Previously Presented) Container according to claim 14, wherein at least one electrode is made of polycarbonate doped with 20% w/w carbon fibers and 15% w/w graphite.
46. (Previously Presented) Container according to claim 1, wherein said at least one electrode has a surface that is plane-parallel to a surface of a second electrode.

47. (Previously Presented) Container according to claim 1, wherein the electrode is moldable.

48. (Previously Presented) Container according to claim 47, wherein the electrode is injection-molded.